



97-026-AFS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

EO-2
980360

December 17, 1998

Reply To
Attn Of: ECO-088

Floyd Rogalski, Olympic Pipeline Team Leader
Cle Elum Ranger District
Wenatchee National Forest
803 West Second Street
Cle Elum, WA 98922

Re: Cross Cascade Pipeline Draft Environmental Impact Statement

Dear Mr. Rogalski:

We have received and reviewed, in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA), the Cross Cascade Pipeline draft environmental impact statement (EIS) for the construction and operation of a 230 mile long common-carrier pipeline to transport refined petroleum products from Snohomish County to the City of Pasco, Washington. The single alternative in the draft EIS analyzes the need to transport refined petroleum product from western Washington refineries to central and eastern Washington by cost-effective, efficient, and environmentally sound means.

Based upon our review, we have rated the draft EIS, EO-2 (Environmental Objections - Insufficient Information). We believe that the draft EIS is very deficient in the presentation of information needed by the public in order for the public to provide informed input on this project. Major deficiencies exist in:

- 1) the discussion of the need for the project and whether public interest will be served by the project;
- 2) the range of alternatives presented to meet the purpose and need for the project; and
- 3) the discussion of environmental risks posed by the proposed alternative.

The need for this project is very difficult to ascertain from the draft EIS. Based on our review of the EIS, we wonder whether there is a real need for the proposed pipeline when:

- ▶ existing pipelines to eastern Washington are operating at half capacity;
- ▶ eastern Washington enjoys a steady supply of fuel at generally lower prices than western Washington; and
- ▶ existing pipelines and other modes of transport have the capacity to handle fuel needs of the area into the foreseeable future.

The NEPA process is intended to fully disclose this kind of information to the public so that they can

make informed comments and advise the decision maker.

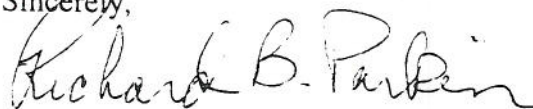
Once the need for a project is established, the NEPA process should identify and evaluate a reasonable range of alternatives to meet that need. This draft EIS proposed only a single way of meeting the need. Our attached comments suggest a number of other alternatives that could be evaluated in the draft EIS.

We believe that the risks to the environment posed by this project are understated and inadequately explained. The section on water quality understates the potential risks of 293 stream crossings: construction impacts and possible leaks of 600 barrels per day going undetected add up to potentially significant impacts. This Region is presently at the crossroads of an environmental crisis with the loss of wild salmon stocks. Currently, a number of salmon species are listed or proposed for listing under the Endangered Species Act (ESA) in the Columbia and Puget Sound Basins. Recovery of these stocks depends on restoring and maintaining water quality and habitat quality. This project will cut across the heart of both basins. It is insufficient to characterize impacts as moderate without substantiation. It is critical that the EIS answer questions such as: Will water quality standards be violated? Will spawning habitats be destroyed or damaged? Will rearing habitats be lost? Will food supplies be diminished? The answers to these kinds of questions will provide specific estimates of environmental risk instead of generalities.

In order for the Forest Service to better make an informed decision on this project, the information we have outlined above should be presented and discussed more thoroughly and made available to the public. The easiest way to augment the information in this document and ensure that the public has an opportunity to evaluate and comment on it is to publish a supplemental draft EIS. We suggest the Forest Service seriously consider the value of preparing a supplement to this draft EIS as this would be the best format for getting this information out for additional consideration by the public. We would be interested in working with you on a supplement and exploring the possibility of EPA assisting with some of the analyses.

An explanation of the EPA rating system for draft EISs is enclosed for your reference. This rating and a summary of these comments will be published in the Federal Register. If you have questions, please contact Andy Smith in our Office of Ecosystems and Communities at (206) 553-1750.

Sincerely,

A handwritten signature in black ink that reads "Richard B. Parkin". The signature is written in a cursive, flowing style.

Richard B. Parkin, Manager
Geographic Implementation Unit

enclosure

Environmental Protection Agency (EPA) Detailed Comments on The Cross Cascade Pipeline Draft Environmental Impact Statement

Our focus in reviewing this project was to ensure that information is disclosed that will help the decisionmaker and the public compare the proposed project with the no-action alternative in terms of environmental impacts and safety. As a result of our review, we have identified a number of areas lacking information that if expanded would help explain this project and allow for informed decision making. There is no doubt that this project presents significant environmental impacts and risks. The question to explore is whether the risks presented by this project are less than those of the current system of transport of refined petroleum product. This is difficult because we are comparing different environmental impacts and risks in different geographic areas. In addition, we examined this project from the public interest and not from that of the proponent. It would appear that the area already has a steady and relatively inexpensive supply of fuel. Thus, public interest is best represented by a Pipeline that is more environmentally sound and safer than the current mode of transporting fuel. If this can not be clearly demonstrated in the EIS, then from a public interest there is not much need for this project.

Purpose and Need

To paraphrase the draft EIS, the purpose and need for this project is to develop an effective, efficient, and environmentally sound system to transport fuel from the northwest refineries to central and eastern Washington. We believe this Purpose and Need statement to be reasonable in that it is not overly narrow and allows us to look at modes in addition to a pipeline for transporting fuel.

We would like to have seen explicitly discussed early in the Purpose and Need chapter that there is no shortage of fuel and in fact the cost of fuel is less expensive than in the Puget Sound area. This is important because anyone new to the issue often assumes that high pump costs or shortages are driving the need for a pipeline. Instead the discussion here only talks about the demand for fuel by shippers from northwest refineries, that "in 1995, the north-south pipeline reached capacity" and "as central and eastern Washington grow, more petroleum products are required." The point of cost is not explicitly discussed until later in Section 2.4.2.6 Effect on Product Costs. Apparently the markets further from the refineries have greater competition and thus lower prices. The markets near refineries are more captive and apparently bear a higher cost at the pump.

We note that the need to have a transport system that is efficient and effective is primarily to benefit the users of the pipeline by lowering transportation costs and may not result in lower costs to the public at the pump. Indeed, efficiency and effectiveness in transportation of product appear to play no role in the cost at the pump which is evidenced by Chevron barging product

from as far away as California to Pasco. Although there is value to having efficient and effective transportation of fuel, our primary concern is that the cost to the environment may be more than it is worth. Also, it is not clear to what extent this project will eliminate the current system of transporting fuel to central and eastern Washington. Our concern is that we will be creating new environmental risks without entirely eliminating the old ones.

The draft EIS clearly discusses that the need for this project is driven by the demand of the shippers and not by Olympic Pipeline Company (OPL), the proponent for the Pipeline. However, the roles and relationships of all the players are not clearly defined in the draft EIS. As stated in the draft EIS, players are the refineries, the shippers (order and arrange for carriers to transport fuel), the carriers (OPL, trucking companies, Tidewater Barge) and terminals to store product. However, what was not clear was that Arco, Texaco and GATX are co-owners of OPL. This should be made clear in the final EIS. In addition, shippers may be independent or "represent the refineries (p. 1-7)." What does "represent" mean? Another player is the customers for shippers which may be filling stations. Some are independent and some are owned by or franchises of the same oil companies that own the refineries. To state that OPL is only responding to shippers demand for fuel from the northwest refineries is not entirely correct seeing that there may be common ownership of refineries, OPL, shippers, terminals, and customers.

Please discuss to what degree the potential users of the Cross-Cascade Pipeline shown on p. 1.17 will use it. For example, Chevron is listed and we do not understand how they can take advantage of the pipeline when they have no refinery in the northwest. Will Chevron who currently barges fuel from Richmond, California stop this practice and use the Pipeline instead? How would they get the barged fuel to the Pipeline? How, why, and to what degree would Conoco and Exxon use the Pipeline if they currently are using the Yellowstone Pipeline for shipping fuel from their refineries in Billings, Montana?

Yellowstone and Chevron Pipelines

Can the statement on page 2-42 be supported and explained as to why shippers prefer the oversubscribed western route verses the undersubscribed eastern Yellowstone Pipeline route? The draft EIS does not adequately explain why there is a demand for fuel from northwest refineries by shippers instead of from elsewhere. Perhaps the statement on page 2-43 (which also relates to the earlier comment on the lack of discussion regarding common ownership between refineries, carriers, shippers, and customers) best explains what is driving the demand by shippers for fuel from the west side: "...because of their desire to promote the sale of their own products rather than a competitor's products." However, no other explanation is given.

The EIS states that the ability of the eastern pipelines to meet future demands "is not directly relevant to the project's Purpose and Need". It is relevant information to a Purpose and Need from a larger public interest. It speaks directly to how great the need for a new pipeline is.

It seems unwise to build another pipeline when an existing pipeline with a capacity of 56,000 bbls/day but operating only at 22,905 bbls/day lies underutilized. Currently, an 87 mile section of the Yellowstone Pipeline that crosses the Flathead Indian Reservation remains disconnected. Refined petroleum products are currently being shipped around the Reservation by truck or rail.

Because of this, the Yellowstone Pipeline Company has asked the Lolo National Forest for permission to build a new pipeline section on national forest land between Missoula and Plains, Montana. Currently, this request is being considered by the Lolo National Forest under the NEPA process. They are in the scoping phase and are currently preparing the draft EIS for this proposal.

If completed, how will this effect the need for a pipeline across the Cascades? Will shippers then turn to the Yellowstone Pipeline for transporting refined petroleum products and not need products from the west? Please give the current cost for shipping along the Yellowstone Pipeline and what it will be upon completion of their pipeline. Please identify the owners of the Yellowstone Pipeline, the refineries that use it, and the oil companies that buy fuel from it. If oil companies often buy fuel from their competitors and simply re-label the fuel, what is preventing the customers in eastern Washington from doing the same thing with fuel off the Yellowstone Pipeline? This information should be disclosed to the public so they can understand the complex marketing mechanisms and better comment on whether the public interest is served by this project.

We understand that Chevron announced in October plans to reverse the flow on their pipeline from Pasco to Boise. Is Chevron planning on the completion of the Pipeline to supply them with fuel for the Chevron Pipeline or will they increase barges from Richmond, California? Explain the Magnuson Act and how moving fuel out of Washington in this manner does not conflict with the Magnuson Act. Have you considered all reasonable foreseeable indirect impacts from the pipeline such as an increase in crude oil shipments in Puget Sound to the refineries?

Barging Risks

Please discuss more thoroughly the reduction in barging that would occur with the proposal. Since barging would be eliminated along the Columbia River according to Tidewater Barge Company, would the risk of spills also be eliminated? Will all barges moving on Puget Sound from the northwest refineries be eliminated? If not, to what extent will the number of barges going through Puget Sound to Harbor Island, Cherry Point, and Marche Point be reduced due to the proposal? Also, to what extent will the number of barges going through the Strait of Juan de Fuca and along the Pacific Coast to the Columbia River be reduced? Can you characterize this in terms of number of trips and number of barrels carried per trip? Will Texaco discontinue the five coastal shipments per month under the proposal?

New North-South Pipeline System Alternatives

We believe the reasons for rejecting the new North-South Pipeline system alternatives are not well supported. We are not necessarily endorsing this alternative, we only believe that it was not adequately considered.

It is stated that even if a new replacement line was built there would continue to be "truck traffic across Snoqualmie Pass." In addition, on p. 2-57 it states, "this alternative is not cost-effective because it would cost shippers more than they are paying now so they wouldn't use it." These statements seems contrary to what was said on pp. 1-4 and 1-5, that trucking and barging along the coast is the result of the existing north-south pipeline operating at capacity and not being able to meet the requests of the shippers on the eastside.

Please explain why they would have to pay more than they are now with the current pipeline? Also, what other choice would they have that would be cheaper? Even if this alternative is more expensive than the proposed pipeline and increases barging up the Columbia River it would have the benefit of meeting the demand and it would eliminate barging along the coast and trucking across the Pass. In this way, we would be reducing environmental and safety risks and not putting new resources at risk. These benefits would be a trade off with increased barging and risk up the Columbia River. It would seem reasonable to consider this.

We also question the statement that, "An important factor in that need is that shippers are requesting a lower cost alternative than barging and trucking." This is understandably an important factor for the applicant but for the EIS the predominate factor is that the alternative be environmentally better and safer and that the shippers will use it. Unfortunately, the lower cost alternative of crossing the Cascade Mountains does not take into account cost externalities from the environmental impacts that will occur to currently unexposed natural resources. Nor does it account for the environmental cost externality that we have already spent with the current system of dams and locks along the Columbia River. If there is no Cross Cascade Pipeline and only a larger capacity north-south pipeline, they will have no choice but to use it, provided it is cheaper than trucking.

Finally, the list of reasons given as to why a north-south alternative shouldn't be considered is not very convincing. Many of the obstacles that would be faced are no different than would be faced with the proposed Pipeline. In addition, just giving the increased capital cost and not annualizing the cost or putting it in context with the revenues generated is not very meaningful. Rejecting an alternative only because the capital cost is greater than a preferred alternative is not acceptable.

I-90 Alternative

Did you consider construction of the Pipeline along I-90 or in the median? If so, why was

it rejected? It would appear to be a reasonable alternative because no new right-of-way would be needed and leaks could be discovered and accessed more quickly as opposed to a pipeline in remote areas. In addition, we would avoid putting at risk areas that have no risk from spills. Currently, the I-90 corridor has risk of spills from the 65 fuel trucks per day that currently use it. Locating a pipeline along I-90 would change that risk. Again, we are not necessarily endorsing this alternative, we only believe that it was not adequately considered.

Columbia River Crossing

The EIS is not clear as to why OPL would prefer to cross the Columbia River using horizontal directional drilling which costs more and has more environmental impacts than using existing structures such as the I-90 bridge or Wanapum Dam. The EIS should explain the concerns of Washington State Department of Transportation and Grant County Public Utility District for allowing use of their structures for crossing the Columbia River. Our interest is that we avoid new impacts at the Columbia River by using the existing structures.

Aquatic Resources and Water Quality Impacts

There will be about 293 stream crossings by the pipeline. This concerns us because of the direct impacts due the invasive trenching methods that will occur and from the risk of pipeline leaks. The EIS states that sixty percent of the channels that will be crossed could incur short-term moderate impact (lasting less than 3 years) from the bed and bank disturbance that will occur when laying the pipeline under the stream. Also, "it is possible that streambeds could experience preferential scouring and sorting of the backfilled trench during the next bankfull or larger event." Does the assessment that the impacts will be short-term and moderate assume there is no preferential scouring and sorting of the backfilled trench? If there is preferential scouring and sorting, what would happen to water quality? Can all this be described somehow so that the reader would have a sense of the seriousness and likelihood of this occurring? Does OPL have experience with other pipeline projects that could help characterize this? Can this be compared to knowledge that the Forest Service has with water quality impacts from runoff from roads and timber harvests. Can this be described in terms of risk of failure such as is done with potential road failures? Are there 303(d) listed streams being traversed? As this section is written, it is left up to the imagination of the reader as to how significant these construction impacts might be.

As stated on p. 2-15, leaks below the rate of 600 barrels/day will not be detected automatically. It does not take very much fuel to seriously impact water quality or fisheries. Researchers at the National Marine Fisheries Service have indicated that 1 part per billion of crude oil have been shown to induce reproductive failure in salmon. (Sound & Straits, Vol 8, November 9, pg. 5) While not directly analogous, further research should be done to determine the response of salmon to contamination by refined product. The discussion on p. 3-133 gives no

information about water quality degradation from a leak or spill and only refers the reader to Section 3.18, Health and Safety, for assessment of pipeline spill risk. This information needs to be expanded.

The section on water quality understates the risk potential of this project with 293 stream crossings, construction impacts, possible leaks of 600 barrels per day going undetected all add up to significant impacts. This Region is at a crossroads of an environmental crisis with the loss of wild salmon stocks. Currently species are listed or proposed for listing in the Columbia and Puget Sound Basins. Recovery of these stocks depend on restoring and maintaining water quality and habitat quality. This project will cut across the heart of both basins. The draft EIS has to discuss the issue more thoroughly. The EIS has to substantiate it's impact analysis. To say the impacts will be "Moderate" without substantiation is insufficient. Will water quality standards be violated? Will spawning habitats be destroyed or damaged? Will rearing habitats be lost? Will food supplies be diminished? These are the kinds of questions that should be answered in the EIS.

With the almost inevitable Endangered Species Act (ESA) listing of certain salmonid species in 1999, EPA requests information and/or plans on how OPL construction will avoid impacting returning salmonids and their spawning beds. In addition, concerning the Tolt River crossing, how will the redirecting of the river into one of its channels be accomplished without impacting the juvenile salmonids. Since EFSEC does not give a permit relating to in-water construction timing, OPL should consult with National Marine Fisheries Service to establish appropriate construction schedules which should become part of the draft EIS.

Although OPL considers the disturbances of the utility corridor to be temporary, King County considers such corridors to be permanent impacts. The draft EIS states that sixty percent of the channels that will be crossed could incur short-term moderate impact (lasting less than 3 years) from the bed and bank disturbance that will occur when laying the pipeline under the stream. Restoration of the disturbed wetlands, river/stream crossings, riparian zones and other sites is considered part of the cost of the project and not to be included in the mitigation ratio. King County established this policy with Tacoma Public Utilities and continues to use this guideline. EPA considers that the mitigation ratio proposed by OPL is insufficient for the temporal loss of habitat function during construction and for the permanent impacts and loss of functional habitat in the service corridor. EPA requests that OPL define its mitigation ratio, the basis for its determination, and how it proposes to mitigate for the lost acreage and function of wetlands and river/stream corridors within the project area.

Right-Of-Ways

OPL is requiring a 60 feet wide right-of-way for construction of the Pipeline but 30 feet will be maintained for operation. The EIS states that the right-of-way is needed to allow for visual inspection from the air and to prevent roots from damaging the pipe. For riparian areas the

construction width will narrow down to 20 feet (p. 3-164) and 10 feet for operation (p. 3-59). Can you tell us what the buffer will be for the riparian areas? We would disagree that the impact would be short term for the construction right-of-way especially where the area is being cleared of trees (p. 3-164) even if they will be allowed to grow back. Table 3.3-9 should list the acres for the construction impact area and not just for the operation impact area. It appears in error that on p. 3-128 of the EIS, it states that 30 feet of riparian vegetation would be removed. Should this be 20 feet?

Cross Valley Aquifer

The EIS points out that the Cross Valley Aquifer is currently at risk from an existing pipeline that is 30 years old. It wasn't clear if there has been some spills in this aquifer from the old pipeline since it is stated in this section that, "the majority of historic releases from the existing pipeline system have been at the pump stations or block valves." Please clarify this point. In any case, it appears that the Cross Cascade Pipeline will only increase the risk to this aquifer.

Pipeline Environmental Soundness and Safety

Clearly the biggest advantage of a pipeline would be improved human safety. To transport fuel in a stationary vessel rather than in one that is moving should result in lower risk to human safety. This is borne out by the US Department of Transportation annual report on transportation statistics (p.3-330).

In terms of service, the pipeline would be an improvement in reliability since snows on the pass or flooding on the Columbia River would no longer slow delivery of fuel.

In terms of the environment, another advantage would be reduction in barge traffic on Puget Sound, along the Washington Coast, and up the Columbia River. In addition (and not thoroughly discussed in the EIS), the pipeline should result in improved air quality in the Portland area which is significantly impacted by the transfer of fuel onto barges. Portland is designated a maintenance area for ozone under the Clean Air Act. The State implementation plan takes credit for volatile organic compounds that would be reduced should the pipeline be constructed. Also by removing activities associated with moving fuel up the Columbia River (storage, transfer, and barge emissions), we would improve visibility impacts along the Columbia River Gorge. While these may be valid benefits from the pipeline, we can not assume under no-action that there are no other solutions to these problems will materialize.

Comparative Risk Analysis and Reported Spills

Our concern is that the pipeline moves environmental risk from one area and puts it where there is no risk. The improvement in air quality for Portland residents puts the drinking water for residents in south Snohomish County at risk because the pipeline will be in the Cross Valley Sole-Source Aquifer. The risk to aquatic life on the Columbia River, Puget Sound, and coastal Washington from a spill is moved to the aquatic life in any of the 293 river, stream, and irrigation canal crossings of the pipeline. The comparison in environmental risk is difficult enough when comparing spill risks in the same environment but comparing them across different environments adds another dimension of complexity to the decision that can not be boiled down to numerical values.

The draft EIS shows that the risk of spills from barges is 0.156 spills per year, from the Pipeline is 0.031 spills per year, and from trucking is 4.3 spills per year. There should be discussion comparing and interpreting these figures. Is the spill figure for barging accurate to three significant figures? We assume not and that barging and pipeline spill risks are relatively equal. This analysis does not appear to be corroborated by real data. Appendix A seems to indicate a much greater risk from pipelines.

There are no reported tanker truck accidents or spills along I-5 or Highway 20 listed in Appendix A nor any deaths that would validate trucking risks. However, many barge and ship accidents are listed. There have been 20 spills with Tidewater Barge Lines since 1986. None have resulted in deaths (or so it appears) and the largest spill was 70 bbls. Eleven of the spills were less than a barrel and spills ranged from 1 to 10 barrels.

There have been many more OPL pipeline accidents and the magnitude of the spills appear to be greater than trucks or barges. For example, twice there were 4000 bbl spills at the Allen Pump station.

It would be useful to provide more information on barging, OPL, and trucking as to what degree the spills occurred on-site and stayed there, to what degree they occurred off-site, what volume was released, and how well they were able to clean them up. In addition, please state the volumes below which spills are not reported for pipelines, trucks, and barges. For OPL, Of the OPL releases, how many were below the detection limit of SCADA and how much fuel had leaked?

In the discussion on the Cross Valley Aquifer, the EIS states that "the majority of historic releases from the existing pipeline system have been at the pump stations or block valves." What is meant by majority? The Health and Safety section somewhat answers this when it states that, "Based on historical experience, the chance is greater than 50 percent that these releases would occur at an OPL terminal, junction, or station, where the probability is high that the spill would be contained by the facility itself." Based on OPL's historical data, there are zero to two releases a year with zero to one release being over 50 barrels. Since there is greater than 50 percent chance that the release will occur on site there also exists a chance less than 50 percent that the release will occur offsite. This seems like pretty high odds that there will be release into

the environment. Although these odds may not be reflective of a new pipeline, they are odds we will eventually encounter with time.

We also understand there is some disagreement from the author of the source used to determine risk of leaks and ruptures from pipelines as to how the risk spill was determined (Mastrandea, 1982). Can you confirm that this analysis was done correctly? In addition, we understand that the spill risk for trucks is based on trucks in general and not for fuel tanker trucks specifically and thus the spill risk is higher than it should be. If this was done, why?

Finally, in discussing risk, another factor that needs to be considered is cleanup. For a pipeline, once a spill is discovered it may be in an inaccessible point and it would be difficult to cleanup since it would likely occur underground. A surface spill from a truck or a barge would likely be discovered more quickly and generally should be easier to clean up.

Leaks Below Detection Limit and Clean Up

A significant concern we have with the pipeline is that "a leak less than 1 percent of flow (600 barrels per day [25,200 gallons]) may not be immediately detectable by the system. Such leaks would only be detected by fluid balance measurements, routine visual inspections, or citizen reporting." This appears to be a significant issue especially since the pipeline is buried and sited in untraveled areas and may not be discovered quickly especially if the leak occurs in the winter when the ground is covered in snow. How long does it take to detect a leak by fluid balance measurements? Are all leaks visible from the surface? How large does the leak have to be in order to be spotted from the air?

How was the time determined for SCADA to detect leaks that are below the detection threshold of 600 bbls/day (25 bbls/hr)? As a point of comparison, a tanker truck carries 190 barrels. It is also stated in the text following this table that a spill, at rates lower than 10 bbls/hr, could continue for hours or days until detected at the spill location. Please clarify this point. Please add to Table 3.18.6, the volume of leakage that would occur before shutdown. Table 3.18.6 would be better if presented in graphical form to better indicate time and volume for all spill rates. Is there more risk from many leaks that are below the detection limit or the more catastrophic rupture of the pipeline? This issue needs to be discussed more thoroughly.

Pipeline Characteristics

One environmentally protective strategies available to OPL is to use double-walled pipe for the total length of the line, or at least in those areas of particular sensitivity to potential leakage of product. The ASME Code for Pressure Piping, Sec. 402.1 indicates that while single wall pipe is appropriate for standard construction, design engineers should look at double-walled pipe whenever there are unusual external conditions, and particularly mentions river crossings

and unstable ground. Although there are a number of river and wetland crossings, and acknowledged unstable ground, OPL has not used double-wall pipe as a design feature to ensure protection from potential leakage in areas of unusual external conditions. The environmental risks associated with the present alignment, the potential for leakage, and the slow response of sensitive wetlands and meadows following contamination justify the use of double wall pipe throughout. EPA requests that OPL provide the basis for their decision to use single wall pipe.

When the Pipeline is nearing the end of its life and has more spills what will be done? Considering that the Underground Storage Tank program is requiring gas station owners to pull out old tanks and replace them with double walled storage tanks, we could perhaps avoid the need for a similar program by constructing the Pipeline with double-walled pipes.

Has OPL considered using more block valves and check valves? As designed, the worst case scenario for the pipeline is equivalent to a barge accident scenario. More block valves and check valves would reduce the catastrophic risk. There are many other safety designs that could be considered. EPA requests that OPL provide the basis for their decision on the number of block valves and check valves that would be used.

Since it is impossible to foresee design failures or other problems that may occur to the pipeline, EPA requests information concerning the type of adaptive management that is in place to respond to unforeseen problems as they occur. What experience does OPL have with similar geographic areas and similar environmental conditions? What design changes have been implemented to respond to unforeseen circumstances?